

Department of Energy

§ 429.44

(EER in British thermal units per Watt-hour (Btu/Wh)), the rated cooling capacity in British thermal units per hour (Btu/h), and the type(s) of heating used by the basic model (*e.g.*, electric, gas, hydronic, none).

(B) When certifying compliance with an IEER standard: the integrated energy efficiency ratio (IEER in British thermal units per Watt-hour (Btu/Wh)), the rated cooling capacity in British thermal units per hour (Btu/h), and the type(s) of heating used by the basic model (*e.g.*, electric, gas, hydronic, none).

(i) Commercial package heating equipment (except commercial package heating equipment that is air-cooled with a cooling capacity less than 65,000 Btu/h):

(A) When certifying compliance with an EER standard: the energy efficiency ratio (EER in British thermal units per Watt-hour (Btu/Wh)), the coefficient of performance (COP), the rated cooling capacity in British thermal units per hour (Btu/h), and the type(s) of heating used by the basic model (*e.g.*, electric, gas, hydronic, none).

(B) When certifying compliance an IEER standard: the integrated energy efficiency ratio (IEER in British thermal units per Watt-hour (Btu/Wh)), the coefficient of performance (COP), the rated cooling capacity in British thermal units per hour (Btu/h), and the type(s) of heating used by the basic model (*e.g.*, electric, gas, hydronic, none).

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(4) * * *

(i) Commercial package air-conditioning equipment (except commercial package air conditioning equipment that is air-cooled with a cooling capacity less than 65,000 Btu/h): rated indoor airflow in standard cubic feet per minute (SCFM) for each fan coil; water flow rate in gallons per minute (gpm) for water-cooled units only; rated external static pressure in inches of water; frequency or control set points for variable speed components (*e.g.*, compressors, VFDs); required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions, if applicable; and if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating. When certifying compliance with an IEER standard, rated indoor airflow in SCFM for each part-load point used in the IEER calculation and any special instructions required to obtain operation at each part-load point, such as fre-

quency or control set points for variable speed components (*e.g.*, compressors, VFDs), dip switch/control settings for step or variable components, or any additional applicable testing instructions, are also required.

(ii) Commercial package heating equipment (except commercial package heating equipment that is air-cooled with a cooling capacity less than 65,000 Btu/h): The rated heating capacity in British thermal units per hour (Btu/h); rated indoor airflow in standard cubic feet per minute (SCFM) for each fan coil (in cooling mode); rated airflow in SCFM for each fan coil in heating mode if the unit is designed to operate with different airflow rates for cooling and heating mode; water flow rate in gallons per minute (gpm) for water cooled units only; rated external static pressure in inches of water; frequency or control set points for variable speed components (*e.g.*, compressors, VFDs); required dip switch/control settings for step or variable components; a statement whether the model will operate at test conditions without manufacturer programming; any additional testing instructions, if applicable; and if a variety of motors/drive kits are offered for sale as options in the basic model to account for varying installation requirements, the model number and specifications of the motor (to include efficiency, horsepower, open/closed, and number of poles) and the drive kit, including settings, associated with that specific motor that were used to determine the certified rating. When certifying compliance with an IEER standard, rated indoor airflow in SCFM for each part-load point used in the IEER calculation and any special instructions required to obtain operation at each part-load point, such as frequency or control set points for variable speed components (*e.g.*, compressors, VFDs), dip switch/control settings for step or variable components, or any additional applicable testing instructions, are also required.

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§ 429.44 Commercial water heating equipment.

(a) For residential-duty commercial water heaters, all represented values must be determined in accordance with § 429.17.

(b) *Determination of Represented Value for All Types of Commercial Water Heaters Except Residential-Duty Commercial Water Heaters.* Manufacturers must determine the represented value, which includes the certified rating, for each basic model of commercial water heating equipment except residential-duty commercial water heaters, either by

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testing, in conjunction with the applicable sampling provisions, or by applying an AEDM as set forth in § 429.70.

(c) *Certification reports.* (1) The requirements of § 429.12 are applicable to commercial WH equipment; and

(2) Pursuant to § 429.12(b)(13), a certification report must include the following public equipment-specific information:

(i) Commercial electric storage water heaters: The maximum standby loss in percent per hour (%/hr) and the measured storage volume in gallons (gal).

(ii) Commercial gas-fired and oil-fired storage water heaters: The thermal efficiency in percent (%), the maximum standby loss in British thermal units per hour (Btu/h), the rated storage volume in gallons (gal), and the nameplate input rate in British thermal units per hour (Btu/h).

(iii) Commercial water heaters and hot water supply boilers with storage capacity greater than 140 gallons: The thermal efficiency in percent (%), whether the storage volume is greater than 140 gallons (Yes/No); whether the tank surface area is insulated with at least R-12.5 (Yes/No); whether a standing pilot light is used (Yes/No); for gas or oil-fired water heaters, whether the basic model has a fire damper or fan assisted combustion (Yes/No); and, if applicable, pursuant to 10 CFR 431.110, the maximum standby loss in British thermal units per hour (Btu/h) and measured storage volume in gallons (gal).

(iv) Commercial gas-fired and oil-fired instantaneous water heaters greater than or equal to 10 gallons and gas-fired and oil-fired hot water supply boilers greater than or equal to 10 gallons: The thermal efficiency in percent (%), the maximum standby loss in British thermal units per hour (Btu/h), the rated storage volume in gallons (gal), and the nameplate input rate in Btu/h.

(v) Commercial gas-fired and oil-fired instantaneous water heaters less than 10 gallons and gas-fired and oil-fired hot water supply boilers less than 10 gallons: The thermal efficiency in percent (%) and the rated storage volume in gallons (g).

(vi) Commercial unfired hot water storage tanks: The thermal insulation

(i.e., R-value) and stored volume in gallons (gal).

(3) Pursuant to § 429.12(b)(13), a certification report must include the following additional, equipment-specific information:

(i) Whether the basic model is engineered-to-order; and

(ii) For any basic model rated with an AEDM, whether the manufacturer elects the witness test option for verification testing. (See § 429.70(c)(5)(iii) for options). However, the manufacturer may not select more than 10% of AEDM-rated basic models to be eligible for witness testing.

(4) Pursuant to § 429.12(b)(13), a certification report may include supplemental testing instructions in PDF format. If necessary to run a valid test, the equipment-specific, supplemental information must include any additional testing and testing set up instructions (e.g., whether a bypass loop was used for testing) for the basic model and all other information (e.g., operational codes or overrides for the control settings) necessary to operate the basic model under the required conditions specified by the relevant test procedure. A manufacturer may also include with a certification report other supplementary items in PDF format (e.g., manuals) for DOE consideration in performing testing under subpart C of this part.

(d) Alternative methods for determining efficiency or energy use for commercial WH equipment can be found in § 429.70 of this subpart.

[76 FR 12451, Mar. 7, 2011; 76 FR 24776, May 2, 2011, as amended at 78 FR 79594, Dec. 31, 2013; 79 FR 25504, May 5, 2014; 80 FR 151, Jan. 5, 2015; 79 FR 40565, July 11, 2014]

§ 429.45 Automatic commercial ice makers.

(a) *Sampling plan for selection of units for testing.* (1) The requirements of § 429.11 are applicable to automatic commercial ice makers; and

(2) For each basic model of automatic commercial ice maker selected for testing, a sample of sufficient size shall be randomly selected and tested to ensure that—

(i) Any represented value of maximum energy use or other measure of energy consumption of a basic model